DOCUMENT RESUME

ED 024 825 08 VT 007 476

By- Elson, Donald E.; Robinson, George A.
Need for a Post-High School Vocational Training Program in Horticulture.
Kansas Vocational Education Research Coordinating Unit, Topeka.
Spons Agency- Office of Education (DHEW), Washington, D.C.
Bureau No- BR-6-2725
Pub Date Nov 68
Grant- OEG-6-062725-2211
Note- 44p.
EDRS Price MF-$0.25 HC-$2.30
Descriptors- *Agricultural Education, *Educational Needs, Educational Planning, Employer Attitudes, Employment, *Employment Opportunities, Employment Qualifications, Job Skills, *Manpower Needs, Off Farm Agricultural Occupations, *Ornamental Horticulture Occupation, Post Secondary Education, School Industry Relationship, State Surveys, Wages
Identifiers- *Kansas

The purpose of this study was to ascertain whether a post-high school vocational training program for horticultural workers is needed in Kansas. A preliminary survey of 76 nursery and six turfgrass firms and interviews with horticulture management personnel were conducted to provide direction and guidance for the final study. The final survey instrument, concerned with employment needs, willingness of firms to assist with the training program, and willingness to hire graduates of the program, was mailed to a stratified survey sample of 199 firms. Included in the sample were 29 institutions, 93 cities,' 27 country clubs, and 50 nurseries. Returns were received from 92 (46.2 percent) of the firms surveyed by mail and a follow-up telephone survey was made o f a randomly selected 10 percent sample of the 107 non-respondents. Employers reported a scarcity of qualified nursery and landscape workers, golf course workers, and horticulture sales workers. The employers prefer job applicants with training, and sufficient opportunity is available to provide occupational experience with cooperating employers. It is recommended that vocational training programs in horticulture be initiated and that consideration be given to the place and value of high school, post-high school, and continuation education in the training and retraining of workers. (HC)

ED0 24825

C1

NEED FOR A POST-HIGH SCHOOL VOCATIONAL TRAINING PROGRAM IN HORTICULTURE

Donald E. Elson
George A. Robinson

A Cooperative Study
by
Kansas Research Coordinating Unit
for Vocational Education, and the Kansas
State Board for Vocational Education

VT007476

U.S. DEPARTMENT OF HEALTH, EDUCATION & WELFARE
OFFICE OF EDUCATION

THIS DOCUMENT HAS BEEN REPRODUCED EXACTLY AS RECEIVED FROM THE PERSON OR ORGANIZATION ORIGINATING IT. POINTS OF VIEW OR OPINIONS STATED DO NOT NECESSARILY REPRESENT OFFICIAL OFFICE OF EDUCATION POSITION OR POLICY.

NEED FOR A POST-HIGH SCHOOL VOCATIONAL TRAINING PROGRAM IN HORTICULTURE.

Donald E. Elson
George A. Robinson

November 1968

The research reported herein was performed pursuant to a grant No. OEG-6-062725-2211, project No. 6-2725, with the Office of Education, U. S. Department of Health, Education and Welfare. Contractors undertaking such projects under Government sponsorship are encouraged to express freely their professional judgement in the conduct of the project. Points of view or opinions stated do not, therefore, necessarily represent official Office of Education position or policy.

Kansas Research Coordinating Unit ~~for Vocational Education~~
Research Foundation of Kansas
Ramada Executive Building
Topeka, Kansas 66607

ACKNOWLEDGEMENTS

The research reported herein was possible through the efforts of numerous firms, individuals, institutions, and organizations in Kansas. The Agricultural Education Division, Kansas State Board for Vocational Education, brought the problem to the Kansas RCU and advised the progress of the study. Special credit is due Donald E. Elson, RCU research assistant and graduate student in Agricultural Education, College of Education, Kansas State University, for development of the study and the collection and tabulation of data, Donald E. Roepke, President of Kansas Association of Nurserymen, and Manager, Skinner Garden Store, Topeka, was especially helpful in designing the preliminary and final parts of the study. Dennis E. Showalter, Park Superintendent, Topeka, and D. William (Bill) Adams, Superintendent of Greens, Topeka Country Club made many valuable suggestions for developing the final part of the study.

George A. Robinson
Research Director
Kansas RCU

TABLE OF CONTENTS

Page

THE STUDY, ITS DESIGN .....

Purpose 1

Objectives 1

Definition of Terms 1

Method 2

FINDINGS 3

Preliminary Survey 3

Final Survey 4

General Information 4

Nursery and Landscape Worker 7

Golf Course Worker 13

Sales Worker 19

Projections 21

SUMMARY 25

CONCLUSIONS 29

RECOMMENDATIONS 30

APPENDICES 31

Appendix A 31

Appendix B 33

LIST OF TABLES

TABLE		Page
I	Summary of Responses to the Survey Received from Employers by Mail and by Telephone	4
II	Number of Persons Employed in Specified Areas at 62 Firms Responding by Mail and the 11 Firms Contacted by Telephone	5
III	Employment of Horticultural Workers by Employer Groups	6
IV	Mean Employment of Horticultural Workers by Employer Groups	6
V	Interest By Employers Groups in Providing Occupational Experience for Vocational Horticulture Students-Mail Respondents	7
VI	Interest by Employers Groups in Providing Occupational Experience for Vocational Horticulture Students-Telephone Respondents	7
VII	Firms Reporting Nursery and Landscape Worker Positions	8
VIII	Nursery and Landscape Workers Employed at the 35 Firms Responding by Mail	9
IX	Nursery and Landscape Workers Employed at the Four Firms Contacted by Telephone	9
X	Availability of Qualified Nursery and Landscape Workers	10
XI	Average Wages Paid to Nursery and Landscape Workers	11
XII	Experience Requirment for the 35 Firms Responding by Mail Who Employed Nursery and Landscape Workers	12
XIII	Summary of Employer Responses Received by Mail Concerning Hiring of Nursery and Landscape Workers from Graduates of Vocational Horticulture Training Programs	13

Table		Page
XIV	Firms Reporting Golf Course Workers Positions	14
XV	Golf Course Workers Employed at the 13 Firms Responding by Mail	15
XVI	Golf Course Workers Employed at the Two Firms Contacted by Telephone	15
XVII	Availability of Qualified Golf Course Workers	16
XVIII	Average Wages Paid to Golf Course Workers	17
XIX	Experience Requirement for the 13 Firms Responding by Mail who Employed Golf Course Workers	18
XX	Summary of Employer Responses Received by Mail Concerning Hiring of Golf Course Workers from Graduates of Vocational Horticulture Training Programs	18
XXI	Firms Reporting Sales Worker Positions	19
XXII	Sales Workers Employed at the Nine Firms Responding by Mail	20
XXIII	Availability of Qualified Sales Workers	20
XXIV	Average Wages Paid to Sales Workers at Nurseries	21
XXV	Employment Estimates for all Horticultural Positions	22
XXVI	Employment Estimates for Horticultural Positions-1968-Nursery and Landscape Workers	23
XXVII	Employment Estimates for Horticultural Positions-1968-Golf Course Workers	23
XXVIII	Employment Estimates for Horticultural Positions-1968-Sales Workers	23
XXIX	Summary of 1968 Employment Estimates and Annual Replacement Needs	24

THE STUDY, ITS DESIGN

Purpose

The purpose of the study was to determine on the basis of employment trends if a post-high school vocational training program for horticultural workers was needed in Kansas.

Objectives

The objectives for this study were:

1. to determine the extent of need for trained horticultural workers.

2. to determine the areas to be included in a training program for horticultural workers.

3. to determine if firms employing horticultural workers would assist with training programs and would subsequently hire graduates of the programs.

4. to provide a basis for making recommendations to the Kansas State Board for Vocational Education concerning the feasibility of establishing a post-secondary level training program for horticultural workers.

Definition of Terms

The terms included in this section are those which had a special meaning in this study and did not necessarily have the same meaning in other situations.

Nurseries - includes all businesses such as nurseries, garden stores, florists, and turfgrass firms.

Institutions - includes universities and colleges - four-year and two-year.

Cities - municipalities having a population of 1,000 or more people.

Country Clubs - golf courses - public or private.

Nursery and Landscape Worker - One who plants, maintains equipment and grounds, performs those manual jobs requiring some judgement with regard to precision attained, e. g., plants, prunes, sprays, applies fertilizer, and operates machinery.

Salesworker - a person who sells horticultural and nursery products and who possesses some knowledge relevant to the items sold.

Golf Course Worker - a person who performs any combination of duties necessary to maintain grounds and turf of a golf course.

Method

A preliminary survey (Appendix A) was conducted using a mailed questionnaire. The survey sample consisted of seventy-six nursery and six turfgrass firms. Firms were selected from a listing entitled, "Kansas Certified Nurseries and Plant Growers." The results of this survey were discussed at a meeting with the staff from the Agricultural Education Division, Kansas State Board for Vocational Education; a representative from the horticulture industry; and a representative from an area vocational-technical school.

Interviews were then conducted with managers from two Topeka nurseries, the superintendent of grounds from Menninger Foundation, the superintendent of the Topeka Park Department, and the superintendent of grounds for Topeka Country Club. The purpose of the interviews was to give direction and guidance to the investigator in developing a final survey form. An interview was also held with a representative of the Division of Employment Security, Kansas Department of Labor, to discuss the employment trends of horticultural workers.

After an amended survey instrument had been developed, copies were sent to a committee composed of a nursery representative, a park superintendent, and a golf course superintendent for review. Following this, a meeting was scheduled with the staff of the Agricultural Education Division, Kansas State Board for Vocational Education, and the committee. At this meeting the final survey instrument was developed. It concerned employment needs, willingness of a firm to assist with the training program, and willingness to hire a graduate from the program.

The final survey form (Appendix B) was mailed to 199 firms in four business catagories. Included in the sample were 29 institutions, 93 cities, 27 country clubs, and 50 nurseries. One follow-up letter was sent to the non-respondents. Later, a telephone survey was made of a randomly selected 10 per cent sample of the non-respondents. Included in the telephone sample were five cities, two nurseries, two institutions, and two country clubs.

Survey responses were tabulated as frequencies and percentages.

FINDINGS

Preliminary Survey

The preliminary survey was conducted for the purpose of providing guidance in making the final study. A selected sample of 78 nursery and six turfgrass firms were picked for this phase. Thirty-four (40 per cent) of the survey instruments were returned.

Data was desired on four specific items. Concerning the first, 27 (79.0 per cent) of the 34 respondents considered the use of the classroom coupled with employment experience the best method for providing instruction.

For the second item, respondents listed the areas of instruction needed by a potential employee. In order of importance, they were:

1. basic skill (balled and burlapped, pruning, planting methods, etc.)
2. basic technical information (fertilizers, insects, diseases, etc.)
3. propagation
4. business training(sales, management, human relations)
5. elementary botany (identification)
6. personal management (desire, ambition, etc.)
7. machine maintenance
8. design (landscape, etc.)
9. public relations
10. manual skills

Regarding the possibility of the firm assisting with the training program by providing a place for work experience, 26 of the 34 replied in the affirmative. Two gave negative responses, while five did not respond to the item.

To the final item, 28 firms said they would consider employing a graduate from a vocational training program. One was undecided. Five failed to respond.

Final Survey

The findings from the final survey have been divided into four parts. The first part contains general information, whereas the remaining parts contain data about specific groups of workers, namely, nursery and landscape, golf course, and sales.

General Information

The final survey sample was expanded to include four employer groups. The stratified sample of 199 employers included institutions, cities, country clubs, and nurseries. Since respondents totaled only 46.2 per cent of the employers in the sample, the telephone survey was used to gather additional data from a 10 per cent randomly selected sample of non-respondents. Table I shows this information in summary form.

Table I. Summary of Responses to the Survey Received from Employers by Mail and by Telephone

Employer Group	Number Mailed	Respondents No.	Respondents %	Non-Respondents No.	Non-Respondents %	Telephone Respondents
Cities	93	42	45.2	51	54.8	5
Country Clubs	27	10	37.0	17	63.0	2
Institutions	29	15	51.7	14	48.3	2
Nurseries	50	25	50.0	25	50.0	2
Total	199	92	46.2	107	53.8	11

To gain some knowledge of the total work force in the establishments surveyed, respondents were asked to group their employees into specified areas and to designate whether they were employed on a full-time, regular part-time, or seasonal basis. The information in the following table is based on 62 useable returns received by mail and from the 11 telephone respondents.

Table II. Number of Persons Employed in Specified Areas at 62 Firms Responding by Mail and the 11 Firms Contacted by Telephone

Area	Employment - Mail Resp.					Employment - Telep. Resp.				
	FT	Reg PT	Seas.	Total	$\bar{X}$*	FT	Reg PT	Seas.	Total	$\bar{X}$*
Managerial	110	13	4	127	2.05	10	-	-	10	0.89
Horticultural	98	39	58	195	3.14	11	1	21	33	3.00
Mechanical	198	38	57	293	4.72	1	-	-	1	0.09
Clerial	128	17	-	145	2.34	3	-	-	3	0.27
Other:										
Laborers	138	4	28	170	2.74	19	4	5	28	2.55
Custodial	64	10	26	100	1.61	-	-	-	-	-
Designers	14	4	2	20	0.32	-	-	-	-	-
Route Salesman	7	2	1	10	0.16	-	-	-	-	-
Sales	3	3	5	11	0.18	-	-	-	-	-
Club House	26	-	-	26	0.42	-	-	-	-	-
Police	38	11	3	52	0.84	-	-	-	-	-
Firemen	-	21	-	21	0.34	-	-	-	-	-
Total	824	162	184	1170	18.87	44	5	26	75	6.82

$\bar{X}$* = Arithmetic mean(average). It was calculated by dividing the row total for each area by the total number (N) of firms. For the managerial area (mailed response) the row total (127)÷mailed respondents (62)=2.05. The same procedure was used for the telephone respondents. In this case, N=11.

Table II suggests that there was considerable difference in the mean size of establishments in the two samples - mail respondents and telephone respondents. There is close agreement in the area with which this study was concerned namely, horticultural employees. Mail respondents averaged 3.14 employees per firm, while telephone respondents averaged 3.00.

In the table that follows, workers who were reported in the horticultural area of Table II were grouped by employers, e.g., cities, country clubs, institutions, and nurseries.

Table III. Employment of Horticultural Workers by Employer Groups

Employer Group	No. Emp.	Employment-Mail Resp. FT	Reg PT	Seas.	Total	No. Emp.	Employment-Tele. Resp. FT	Reg PT	Seas	Total
Cities	30	21	2	17	40	5	2	-	-	2
Country Clubs	7	24	1	21	46	2	3	1	7	11
Institutions	9	13	10	14	37	2	-	-	1	1
Nurseries	16	40	26	6	72	2	6	-	13	19
Total	62	98	39	58	195	11	11	1	21	33

Table IV. Mean Employment of Horticultural Workers by Employer Group *

Employer Group	No. Emp.	Mean Empl.-Mail Resp. FT	Reg PT	Seas	ME	No. Emp.	Mean Empl.-Tele. Resp. FT	Reg PT	Seas	ME
Cities	30	0.70	0.06	0.57	1.33	5	0.40	0.00	0.00	0.40
Country Clubs	7	3.43	0.14	3.00	6.57	2	1.50	0.50	3.50	5.50
Institutions	9	1.44	1.11	1.55	4.11	2	0.00	0.00	0.50	0.50
Nurseries	16	2.50	1.63	0.38	4.50	2	3.00	0.00	6.50	9.50
(ME) Mean Employment	62	1.58	0.63	0.93	3.14	11	1.00	0.09	1.91	3.00

* the mean employment (arithmetic mean) was found by dividing the employment in each category by the number of employers, e.g., mean part-time employment (0.70) = full-time employees (21) ÷ number of cities (30).

Table III and IV do not report sufficient employment from the 10 per cent sample of non-respondents to make extensive comparisons. Certain cells within the two tables do provide useful mean employment information, for example, the mean full-time employment for 16 nursery employers in the mailed response was 2.50, while the two nursery employers from the telephone response, had a mean full-time employment of 3.00.

Next, employers were asked whether they would provide occupational experience for students enrolled in a vocational horticulture program. Table V and VI contain summaries of responses from those who answered by mail or were contacted by telephone.

Table V. Interest by Employer Groups in Providing Occupational Experience for Vocational Horticulture Students - Mail Respondents

Employer Group	No.	Interested		Undecided		Not-Interested		No Response	
		No.	%	No.	%	No.	%	No.	%
Cities	42	7	16.7	13	31.0	14	33.3	8	19.0
Country Clubs	10	5	50.0	1	31.0	1	10.0	3	30.0
Institutions	15	4	26.7	8	53.3	2	13.3	1	6.7
Nurseries	25	8	32.0	3	12.0	5	20.0	9	36.0
Total	92	24	26.1	25	27.2	22	23.9	21	22.8

Table VI. Interest by Employer Groups in Providing Occupational Experience for Vocational Horticulture Students - Telephone Respondents

Employer Group	No.	Interested		Undecided		Not-Interested		No Response	
		No.	%	No.	%	No.	%	No.	%
Cities	5	1	20.0	4	80.0	-	-	-	-
Country Clubs	2	1	50.0	1	50.0	-	-	-	-
Institutions	2	1	50.0	1	50.0	-	-	-	-
Nurseries	2	2	100.0	-	-	-	-	-	-
Total	11	5	45.5	6	54.5	-	-	-	-

Of the 92 employers in Table V, 26.1 per cent said they would assist with the occupational experience part of a vocational horticulture program. A slightly larger percentage, 27.7 was undecided. Many of this latter group stated that they would like to know more about the program before definitely committing themselves.

When comparing the results of Table V with Table VI, one will note that respondents in the telephone survey were either interested in or undecided about the occupational experience part of a training program.

Nursery and Landscape Worker

Employment by firms: Thirty-five of the 92 employers (firms) responding by mail, as given in Table VII, employed persons as nursery and landscape workers. Included were 18 cities, 9 institutions, and 8 nurseries. Two institutions planned to add the position by 1970. From the telephone survey, it was found that four of the 11 employers hired persons in this position, namely, two cities and two nurseries. One institution hoped to employ a person in this position by 1970.

Table VII. Firms Reporting Nursery and Landscape Worker Positions

Employer Groups	Survey Sample Size	92 Mail Respondents			11 Telephone Respondents			107 Non-Respondent Firms with Position-Projected	
		No. Resp.	Firms w/ Position No.	%	No. Resp.	Firms w/ Position No.	%	No. Firms	No. Positions*
Cities	93	42	18	42.86	5	2	40.00	51	20
Country Clubs	27	10	0	0.00	2	0	0.00	17	0
Institutions	29	15	9	60.00	2	0	0.00	14	0
Nurseries	50	25	8	32.00	2	2	100.00	25	25
Total	199	92	35	38.04	11	4	36.36	107	45

*Projections were based on the assumption that, when a certain per cent of the telephone respondents reported the position, the same per cent of remaining non-respondents would have the position. The same procedure was used for Tables XIV and XX. Projections from the three tables were not mentioned in the subsection entitled, Projections.

From the above table it will be noted that 35 of 92 respondents by mail reported nursery and landscape worker positions. Four of the 11 contacted by telephone reported the position. Little difference existed between the two groups when expressed as a percentage. If the non-respondent group were projected, one could estimate that 45 of the 107 firms would have nursery and landscape workers. Combined with the 35 that responded by mail the total would represent 80 (40.20 per cent) of the 199 firms in the survey sample.

Employment - 1966, 1968, 1970: The next two tables show by employer groups the 1966 employment, the 1968 employment, and the 1970 estimated employment for those firms which reported the nursery and landscape worker position. Employment was reported as full-time, regular part-time, and seasonal. Information in Table VIII represents 35 employers in 92, while Table IX represents four employers in 11, who employed persons as nursery and landscape workers.

Table VIII. Nursery and Landscape Workers Employed at the 35 Firms Responding by Mail

Employer Group	No.	1966 Employment FT	PT	Seas	Total	1968 Employment FT	PT	Seas	Total	1970 Employment FT	PT	Seas	Total
Cities	18	45	5	38	88	61	4	46	111	61**	3*	55	119
Institutions	9	15	13	23	51	19	11	25	55	19	12	26*	57
Nurseries	8	21	11	14	46	23	11	22	56	7**	12	32	51
Total	35	81	29	75	185	103	26	93	222	87	27	113	227

* Indicates on less response than given under employer No.

** Indicates two less responses.

Table IX. Nursery and Landscape Workers Employed at the Four Firms Contacted by Telephone

Employer Group	No.	1966 Employment FT	PT	Seas	Total	1968 Employment FT	PT	Seas	Total	1970 Employment FT	PT	Seas	Total
Cities	2	2	-	-	2	2	-	-	2	2	-	-	2
Nurseries	2	8	-	9	17	8	-	13	21	8	-	13	21
Total	4	10	-	9	19	10	-	13	23	10	-	13	23

Tables VIII and IX show a gradual growth from the 1966 employment to the 1970 projected employment. Incomplete returns for the 1970 projected full-time employment in Table VIII caused this employment group, in particular, to be out of perspective.

Labor supply: To assist with the problem of determining need for a vocational horticulture training program, employers were asked about the adequacy of a qualified labor supply. Employer responses for 1966 and 1967 appear in Table X. Those responding by mail said that 20 per cent of their positions were filled by persons outside the firm in 1966. Estimates for 1968 were 17 per cent.

Table X. Availability of Qualified Nursery and Landscape Workers

Employer Groups	Mail Respondents								Telephone Respondents							
		1966				1967				1966				1967		
		Adequate		Scarce		Adequate		Scarce		Adequate		Scarce		Adequate		Scarce	
	N	No.	%	No.	%	No.	%	No.	%	N	No.	%	No.	%	No.	%	No.	%
Cities	15	10	66.7	5	33.3	10	66.7	5	33.3	2	2	100.	-	-	2	100.	-	-
Institutions	8	5	62.5	3	37.5	5	62.5	3	37.5	0	-	-	-	-	-	-	-	-
Nurseries	8	2	25.0	6	75.0	1	16.5	7	83.5	2	1	50.0	1	50.0	1	50.0	1	50.0
Total	31	17	54.84	14	45.16	16	51.61	15	48.39	4	3	75.0	1	25.0	3	75.0	1	25.0

When comparing Table X with Table VIII, four of the 35 firms in the previous table, namely, three cities and one institution, employing nursery and landscape workers did not respond to the question on of available labor supply. Although some scarcity was reported by all employer groups responding by mail, the greatest scarcity was reported by the nursery group.

Wages: Information about wages paid to nursery and landscape workers by citites, institutions, and nurseries reported in Table XI was divided into three categories - hourly, monthly, and annual. Within each category, wages were reported for full-time, regular part-time, or seasonal workers.

Table XI. Average Wages Paid to Nursery and Landscape Workers

Employer Group	Full-time	Part-time	Seasonal
Hourly Wage			
Cities	2.10 (6)*	1.92 (4)	1.75 (11)
Institutions	2.23 (7)	1.78 (5)	1.69 (4)
Nurseries	2.50 (1)	1.53 (3)	1.13 (2)
Monthly Wage			
Cities	368.00 (8)	425.00 (1)	326.00 (3)
Institutions	371.00 (6)	--	250.00 (1)
Nurseries	450.00 (2)	--	--
Annual Wage			
Cities	5,400.00 (1)**	--	--
Institutions	4,965.00 (3)	--	--
Nurseries	5,333.00 (3)	--	--

* Figures in parentheses indicate the number of mailed responses received from 18 cities, nine institutions, and eight nurseries and used for computing average wages.

** Estimated for graduate of a training program by one city respondent.

In some instances sufficient responses were received to give an indication of wage indices. In others, responses were quite limited or lacking. For example, the average hourly wage paid by 11 cities for seasonal workers was $1.75. Only one nursery reported wages on an hourly basis and three on an annual basis.

From the telephone poll, it was found that the average hourly wage for two cities was $1.90; for the two nurseries, $1.75. Nurseries paid their seasonal nursery and landscape workers an average of $1.32 per hour.

For full-time workers, nurseries indicated that the annual wage would range form $5,500 to $6,000. One institution, planning to add the position in 1970, will advertise the position for $5,000 per year. The position will be filled by an applicant from outside the institution.

Worker Preference by Sex: Firms were asked if they had any sex preference for nursery and landscape workers. Of the 35 firms responding by mail who had the position, 15 of 18 cities (83.3 per cent), 9 of 9 institutions (100 per cent), and 4 of 8 nurseries (50.0 per cent) required male workers. The 28 firms having this requirement accounted for 80.0 per cent of the firms. Three of the nursery respondents said they would consider either males of females for employment. The four remaining firms did not respond to the item.

With reference to the telephone survey, two cities required males for the position. Two nurseries and one institution had no preference.

Experience: To the question of an experience requirement, Table XII was developed to summarize the practices used by the 35 firms responding by mail who employed nursery and landscape workers.

Table XII. Experience Requirment for the 35 Firms Responding by Mail Who Employed Nursery and Landscape Workers

Employer Group	No. Firms	Exp. Required No.	%	Exp. Not Required No.	%	No Response No.	%
Cities	18	4	22.2	10	55.6	4	22.2
Institutions	9	6	66.7	3	33.3	-	-
Nurseries	8	4	50.0	4	50.0	-	-
Total	35	14	40.0	17	48.6	4	11.4

Taken as a group, 40 per cent of the 35 employers required their nursery and landscape workers to be experienced. Cities required the least experience, while institutions required the most. Several respondents mentioned that they preferred experienced applicants but could not insist on it if they wished to fill the position.

The four telephone respondents who had this position replied as follows: previous experence required by one city; no experience required by one city and two nurseries.

Placement: The last table in this section of the study concerned placement of graduates from vocational horticulture training programs. The question was "Would you place graduates from a vocational horticulture training program?" The 37 mailed responses included two institutions planning to add the position.

Table XIII. Summary of Employer Responses Received by Mail, Concerning Hiring of Nursery and Landscape Workers from Graduates of Vocational Horticulture Training Programs

Employer Groups	No. Firms	Yes		Undecided		No		No Response	
		No.	%	No.	%	No.	%	No.	%
Cities	18	8	44.4	7	38.9	1	5.6	2	11.1
Institutions	11	4	36.4	7	63.6	-	-	-	-
Nurseries	8	7	87.5	1	12.5	-	-	-	-
Total	37	19	51.4	15	40.5	1	2.7	2	5.4

For all firms, 51.4 per cent of the respondents answered that they would employ training program graduates. Some qualified their response with the statement, "if there was an opening." The largest response was from the nursery group. For this group of respondents, seven (87.5 per cent) would hire graduates. Almost two-thirds of the institutional group were undecided on the matter.

When asked by telephone whether they would employ graduates from a training program, one city, one institution planning for the position, and two nurseries replied in the affirmative. The second city was undecided.

Golf Course Worker

Employment by firms: Four of the cities and nine of the country clubs employed persons as golf course workers. Eight cities and one country club did not complete this item. None of the respondents was planning to add the position by 1970. Of the 11 employers contacted in the telephone survey, the two golf courses were the only firms employing golf course workers. Table XIV gives the employment in more detail.

Table XIV. Firms Reporting Golf Course Workers Positions

Employer Groups	Survey Sample Size	92 Mail Respondents			11 Telephone Respondents			107 Non-Respondent Firms with Position-Projected	
		No. Resp.	Firms w/ Position No.	%	No. Resp.	Firms w/ Position No.	%	No. Firms	No. Positions
Cities	93	42	4	11.76*	5	-	-	51	-
Country Clubs	27	10	9	100.0**	2	2	100.0	17	17
Institutions	29	15	-	-	2	-	-	14	-
Nurseries	50	25	-	-	2	-	-	25	-
Total	199	92	13	15.66***	11	2	18.18	107	17

* Based on the 34 cities who completed the item. ** Based on the 9 country clubs who completed the item. *** Based on 83 completed responses.

The above table contains data from 13 respondents by mail who reported golf course worker positions. Two of the 11 contacted by telephone employed persons for this type of work. By projecting the 107 non-respondents on the basis of the telephone interview, there would be 17 firms employing person as golf course workers. By combining this figure with the 13 from the mailed responses, there would be 30 firms (15.08 per cent) in the survey sample of 199 with this position.

Employment- 1966, 1968, 1970: In an attempt to determine employment trends, employers were asked to report their employment of golf course workers for 1966 and to give their estimates for 1968 and 1970. The next two tables contain this information, for firms having this position. None of the respondents planned to add this postion by 1970.

Table XV. Golf Course Workers Employed at the 13 Firms Responding by Mail

Employer Group	No. Firms	1966 Employment FT	PT	Seas	Total	1968 Employment FT	PT	Seas	Total	1970 Employment FT	PT	Seas	Total
Cities	4	5	4	1	10	6	4	1	11	6	4	1	11
Country Clubs	9	25	10	38	73	27	9	36	72	25	11	31*	67
Total	13	30	14	39	83	33	13	37	83	31	15	32	78

* Incomplete. Two of the 43 employers did not report an estimate for this year.

Table XVI. Golf Course Workers Employed at the Two Firms Contacted by Telephone

Employer Group	No. Firms	1966 Employment FT	PT	Seas	Total	1968 Employment FT	PT	Seas	Total	1970 Employment FT	PT	Seas	Total
Country Clubs	2	3	1	7	11	3	1	7	11	3	1	7	11

Table XV shows that, when employment of golf course workers by cities was campared with country clubs, the majority of full time employment was at country clubs by a ratio of 1:4.5. For part-time workers the ratio was 1:2.5. Seasonal workers for the most part were employed by country clubs.

Labor supply: Information about adequacy of available golf course workers was desired so that some assessment of need for vocational training programs could be made, corresponding to nursery and landscape workers in Table X. Data from a limited number of employers appears in Table XVII.

Tables XVII. Availability of Qualified Golf Course Workers*

Employer Groups	Mail Respondents								Telephone Respondents							
		1966				1967				1966				1967		
		Adequate		Scarce		Adequate		Scarce		Adequate		Scarce		Adequate		Scarce
	N	No.	%	No.	%	No.	%	No.	%	N	No.	%	No.	%	No.	%	No.	%
Cities	4	1	25.0	2	50.0	1	25.0	3	75.0	-	-	-	-	-	-	-	-	-
Country Clubs	9	3	33.3	6	66.7	3	33.3	6	66.7	2	-	-	2	100.	-	-	2	100.
Total	13	4	30.7	8	61.6	4	30.7	9	69.3	2	-	-	2	100.	-	-	2	100.

* Totals which were less than N=4, N=9, or N=13 were due to non respondents.

Scarcity of qualified workers existed for eight of the 13 employers in 1966 and for nine of them in 1967. The latter figure represented 69.3 per cent of those responding by mail who employed golf course workers. Since only two employers of the 11 contacted by telephone had workers matching the description for golf course workers, a 100 per cent scarcity existed for this group of country clubs.

Wages: Wage inf mation similar to that given in able XI was received from 13 employers hiring golf course workers. As shown in Table XVIII, it was quite limited in certain categories.

Tsble XVIII. Average Wages Paid to Golf Course Workers

Employer Group	Full-time	Part-time	Seasonal
Hourly Wage			
Cities	--	1.75 (1)	1.75 (1)
Country Clubs	2.05 (8)*	1.65 (5)	1.61 (6)
Monthly Wage			
Cities	358.00 (4)	--	--
Country Clubs	437.00 (1)	--	--
Annual Wage			
Cities	--.	--	--
Country Clubs	5200.00 (2)	--	--

* Numbers in parentheses represent the useable responses from which the average wages were computed for a potential of four cities and nine country clubs.

An average hourly wage of $1.42 for part-time and seasonal golf course workers was paid by the two country clubs surveryed by telephone. Full-time workers received $468 per month.

Worker preference by sex: From the 13 employers (four cities and nine country clubs), one city (25.0 per cent) and seven country clubs (77.8 per cent) required male golf cource workers. Two cities (50.0 per cent) and one country club (11.1 per cent) would hire either male or female workers. One city (25.0 per cent) and one country club (11.1 per cent) did not respond. Male workers were required in eight (61.5 per cent) of the 13 firms.

Experience: The response of employers toward an experience requirement has been summarized in Table XIX.

Table XIX. Experience Requirement for the 13 Firms Responding by Mail who Employed Golf Course Workers

Employer Group	No. Firms	Exp. Required No.	%	Exp. Not Required No.	%	No Response No.	%
Cities	4	1	25.0	2	50.0	1	25.0
Country Clubs	9	5	55.6	3	33.3	1	11.1
Total	13	6	46.2	5	38.4	2	15.4

Only six (46.2 per cent) required experience for this position. When compared with Table XII, one will note that in both instances cities required the least experience. The two country clubs from the telephone poll did not require workers to be experienced.

Placement: Willingness of employers to hire graduates from a training program for golf course worker positions is summarized in Table XX.

Table XX. Summary of Employer Responses Received by Mail Concerning Hiring of Golf Course Workers from Graduates of Vocational Horticulture Training Programs

Employer Group	No. Firms	Yes No.	%	Undecided No.	%	No No.	%	No Response No.	%
Cities	4	2	50.0	1	25.0	-	-	1	25.0
Country Clubs	9	6	66.7	1	11.1	2	22.2	-	-
Total	13	8	61.5	2	15.4	2	15.4	1	7.7

Eight of the 13 firms (61.5 per cent) would hire training program graduates. The two country clubs, in the group of 11 employers contacted by telephone said they would place graduates if they had openings.

Sales Worker

Employment by firms: This job was confined to employers in the nursery group. Nine of the 25 responding firms indicated that they had sales worker positions. Ten of the firms did not complete the item. None of the 11 employers interviewed by telephone employed persons for this job. Data for this item appears in Table XXI.

Table XXI. Firms Reporting Sales Worker Positions

Employer Groups	Survey Sample Size	92 Mail Respondents: No. Resp.	Firms w/ Position: No.	Firms w/ Position: %	11 Telephone Respondents: No. Resp.	Firms w/ Position: No.	Firms w/ Position: %	107 Non-Respondent Firms with Position-Projected: No. Firms	No. Positions
Cities	93	42	-	-	5	-	-	51	-
Country Clubs	27	10	-	-	2	-	-	17	-
Institutions	29	15	-	-	2	-	-	14	-
Nurseries	50	25	9	60.0*	2	-	-	25	-
Total	199	92	9	10.97**	11	0	0.0	107	0

* Based on the 15 nurseries who completed the item. ** Based on 82 completed responses.

The nine firms, having sales worker employees, represented 60 per cent of the nursery respondents. Since the two nurseries in the telephone survey did not have sales workers, no projections cound be shown for the non-respondent group. The only findings were that the nine firms with sales workers represented 10.97 per cent of the 82 completed responses. Some of the nurseries did not have sales worker personnel, per se, but said thier nursery and landscape peronnel did some selling.

Employment - 1966, 1968, 1970: The number of positions in the nine nurseries for 1966 with estimates for 1968 and 1970 will be found in Table XXII. None of the respondents without sales worker positions at the time of the survey planned to add the position by 1970.

Table XXII. Sales Workers Employed at Nine Firms Responding by Mail

Employer Group	No. Firms	1966 Employment FT	PT	Seas	Total	1968 Employment FT	PT	Seas	Total	1970 Employment FT	PT	Seas	Total
Nurseries	9	13	4	6	23	14	3	3(1)*	20	7(2)	2(1)*	2(2)	11

* Incomplete. Number in parentheses refers to the nurseries (nine possible) failing to report complete information.

Labor supply: The question was, do employers find an adequately qualified labor supply for the potition of sales worker/ The data in Talbe XXIII was desired so it could be compared with that presented in Tables X and XVII for assessing the need for vocational training programs.

Table XXIII. Availability of Qualified Sales Workers*

Employer Group		1966					1967			
		Adequate		Scarce			Adequate		Scarce	
	N	N.	%	N.	%	N	N.	%	N.	%
Nurseries	9	1	11.1	7	77.8	9	1	11.1	6	66.7

* Totals which were less than N=9 were due to non-respondents.

A noticeable shortage of qualified workers existed for both years, being slightly more than three-fourths of the respondents for 1966 and exactly two-thirds for 1967.

Wages: Very limited wage data was obtained from employers as shown in Table XXIV.

Table XXIV. Average Wages Paid to Sales Workers at Nurseries

Hourly Wage		
Full-time	Part-time	Seasonal
1.78 (3)*	1.28 (4)	1.00 (3)
Monthly Wage		
450. (2)	-	-

* Numbers in parentheses represent the number of employers from the nine having sales workers who did not report their wages.

Workers preference by sex: Eight of the responding firms (88.9 per cent) stated that they would hire either men or women for the position. One firm preferred women sales workers.

Experience: Previous sales experience was required by four (44.4 per cent) of the nine nurseries, while five (55.6 per cent) required none.

Placement: Seven employers (77.8 per cent) replied that they would employ graduates from a vocational horticulture program as sales workers. Two were undecided.

Projections

Projections were based on the assumption that what was true for the survey sample would be true for the portion not surveyed. Non-respondents were not included in the projections, since the telephone response did not adequately represent that group. Table I showed that 199 employers received survey materials, and that respondents numbered 92 (46.2%)

Two different procedures were utilized in making the projections. For the cities and institutions all segments of each respective sample included the parameter given in the definetions with two exceptions. These were readily determined by simply projecting from the raw data.

In making projections for country clubs (golf courses), the 180 used as a basis for the projection was taker from the brochure, Kansas Golf Courses, circulated by the Kansas Department of Economic Development. For nurseries, the extimate of 679 was developed in conversation with Larry D. Leuthold, Extension Specialist, Ornamental Horticulture, Kansas State University.

Projected positions, then, for country clubs and nurseries were determined in the following manner, using the country club employer group in Table XXV as an example. Horticultural workers were employed in seven of the 10 firms returning survey materials (See Table I and III). This represented 25.92 per cent of the sample. This per cent of 180 firms would be 47 firms. By using the mean employment given in Table IV, full-time, part-time, and seasonal positions were estimated.

Some descrepancy exists between the total of 1377 horticultural positions in Table XXV and the combined total of 1662 from Tables XXVI, and XXVII, and XXVIII. This apparently resulted from carelessness in reporting on the part of employers.

Table XXV. Employment Estimates for all Horticultural Positions - 1968

Employer Group	No. Surveys Mailed	Surveys Returned			Bases for Employment Estimates		Estimated Positions			
		No.	No. W/ Position	% Having Position	No. Firms	No. w/ Position	FT	PT	Seas	Total
Cities	93	42	30	32.26	132	30	21	2	19	42
Country Clubs	27	10	7	25.92	180	47	161	7	141	309
Institutions	29	15	9	31.03	23	18	17	10	20	47
Nurseries	50	25	16	32.00	679	217	543	354	82	979
Total	199	92	62	31.16	1014	312	742	373	262	1377

Table XXVI. Employment Estimates for Horticultural Positions- 1968 - Nursery and Landscape Workers

Employer Group	No. Surveys Mailed	Surveys Returned No.	No. w/ Position	% Having Position	Bases for Employment Estimates No. Firms	No. w/ Positions	Estimated Positions FT	PT	Seas	Total
Cities	93	42	18	19.36	132	26	21	11	35	67
Institution	29	15	9	31.13	23	12	22	12	32	66
Nurseries	50	25	8	16.00	679	109	314	150	300	764
Total	172	82	35	20.35	834	147	357	173	367	897

Table XXVII. Employment Estimates for Horticultural Positions - 1968 - Golf Course Workers

Employer Group	No. Surveys Mailed	Surveys Returned No.	No. w/ Position	% Having Position	Bases for Employment Estimates No. Firms	No. w/ Positions	Estimated Positions FT	PT	Seas	Total
Cities	93	42	4	4.30	132	5	8	6	1	15
Country Clubs	27	10	9	33.33	180	60	180	60	240	480
Total	120	52	13	10.83	313	65	188	66	241	495

Table XXVIII. Employment Estimates for Horticultural Positions - 1968 - Sales Workers

Employer Group	No. Surveys Mailed	Surveys Returned No.	No. w/ Position	% Having Position	Bases for Employment Estimates No. Firms	No. w/ Positions	Estimated Positions FT	PT	Seas	Total
Nurseries	50	25	9	18.00	679	122	190	40	40	270

The 1968 employment estimates for the three horticultural positions studied have been summarized in Table XXIX. By using and estimated 10 per cent replacement, employers would need 74 full-time and 28 part-time workers.

Table XXIX. Summary of 1968 Employment Estimates and Annual Replacement Needs

Horticultural Position	Projected Positions			Replacement Needs @ 10%	
	FT	PT	Seas	FT	PT
Nursery & Landscape Workers	357	173	367	36	17
Golf Course Workers	188	66	241	19	7
Sales Workers	190	40	40	19	4
Total	735	279	648	74	28

SUMMARY

The purpose of the study was to ascertain whether a post-high school vocational training program was needed in Kansas.

The objectives were: 1.) to determine the extent of need for trained horticultural workers; 2.) to determine the areas to be included in a training program for horticultural workers; 3.) to determine if firms employing horticultural workers would assist with training programs and would subsequently hire graduates of the programs; 4.) to provide a basis for making recommendations to the Kansas State Board for Vocational Education, concerning the feasibility of establishing a post-secondary level training program for horticultural workers.

A preliminary survey was mailed to 76 nursery and turfgrass firms. Thirty-four (40.0 per cent) of the firms responded to the survey. Four items of information were obtained, namely, 1.) 27 (79.0 per cent) favored training which included both classroom and employment experiences; 2.) areas of instruction were suggested by order of importance (See p. 3); 3.) 26 (76.47 per cent) would provide work experience to students; and 4.) 28 (82.35 per cent) said they would consider employing graduates from a vocational training program.

After developing and testing the final survey instrument with the assistance of representatives from three types of employment related to the study, materials were mailed to a stratified survey sample. Included were 199 firms in four business categories, i.e., 93 cities, 27 country clubs, 29 institutions, and 50 nurseries.

Returns were received from 92 (46. 2 per cent) of those surveyed by mail. The ratio of respondents to sample size was 4.2 of 93 cities for 45.2 per cent response; 10 of 27 country clubs for 37.0 per cent; 15 of 29 institutions for 51.7 per cent; and 25 of 50 nurseries for 50.0 per cent. Additional data was obtained via a telephone survey of a 10 per cent randomly selected and statified sample of 11 firms chosen from the 107 non-respondents, i.e., five cities, two country clubs, two institutions, and two nurseries.

Horticultural employees in the 66 firms supplying information numbered 98 full-time, 39 regular part-time, and 58 seasonal, for

a total of 195. The mean horticultural employment per firm was 3.14 persons. From the telephone survey it was found that in 11 firms there were 11, 1, and 21 employees in each of the above categories. Total employment was 33. The mean employment per firm for the non-respondents was 3.00 persons, which was quite similar to the mean of 3.14 for mailed respondents. The mean full-time employment for the two groups of respondents was 1.58 for the 62 firms and 1.00 for the 11 firms.

Employer interest in providing occupational experience for vocational horticulture students was 26.1 per cent from the 92 mailed respondents and 45.5 per cent for the 11 contacted by telephone. On the other hand, the preliminary survey, which was mailed to nursery and turfgrass firms, showed that 26 of 34 (76.47 per cent) would provide work experience.

Since data from the telephone sample was very limited, summary references to it will be specifically identified. Otherwise, all statements refer to respondents by mail.

Nursery and landscape workers: Nursery and Landscape workers were employed in 35 of the 92 firms responding by mail and in four of the 11 interviewed by telephone, representing 38.04 and 36.36 per cent, respectively, of the two groups of firms. Cities, institutions, and nurseries reported this position.

For 1966, 54.84 per cent of the respondents said that a qualified labor supply was adequate. For 1967, the percentage was 51.6.

Wages for full-time workers ranged from $2.10 to $2.50 per hour. This was slightly more than part-time or seasonal workers received. Monthly wages for full-time workers ranged from $368. to $450.

Male workers were required by 80 per cent of the employers.

Experience was a requirement for employment in 40 per cent of the cases.

Respondents in 51.4 per cent of the 35 firms indicated an interest in placing graduates from a vocational training program.

Estimates showed there would be 357 full-time, 173 part-time and 367 seasonal workers in the parameter, based on the percentage of responding firms.

Golf course worker: Golf course workers were employed by cities and country clubs. Thirteen of the 92 respondents (four cities and nine country clubs) employed persons in this position. This represented 11.76 per cent of the 34 cities and 100 per cent of the nine country clubs completing the item. The two country clubs contacted by telephone employed persons in this position.

Employment in 1968 showed little variation when compared with 1966 and estimates for 1970.

Employers said that qualified golf course workers were in short supply in 61.6 per cent of the cases in 1966 and in 69.3 per cent of the cases in 1967.

Hourly wages was given as $2.05 by eight employers, while a range of $353. to $437. was reported by five employers.

Male workers were preferred by eight (61.5 per cent) of the 13 firms.

Experience was required by 46.2 per cent (6 of 13) of the respondents. No experience was expected of job applicants by the two country clubs who were interviewed by telephone.

Estimates showed there would be 188 full-time, 66 part-time, and 241 seasonal workers based on the percentage of responding firms.

Sales worker: Sales workers positions were reported in nine of the firms, representing 11.97 per cent of 82 completed responses. The nine were all located in 15 of the 25 nurseries which completed the item. None were reported in the 11 firms in the telephone survey.

Failure of respondents to complete employment information did not permit the determening of trends.

The majority of respondents replied that there was a scarcity of qualified workers.

Very limited wage information was obtained. The only full-time wage given was $1.78 per hour. Part-time and seasonal worker wages were lower. The only monthly wage reported for full-time workers was $450.

Eight of the nine firms (88.9 per cent) said they would employ either men or women sales workers, while one preferred women.

Previous sales experience was required by 44.4 per cent (four nurseries). None was required by 55.6 per cent (five nurseries).

Seven of the nine nurseries would employ graduates from a vocational training program.

Estimates showed there would be 190 full-time, 40 part-time, and 40 seasonal workers in the survey sample, based on the percentage of responding firms.

CONCLUSIONS

In all three horticultural positions - nursery and landscape worker, golf course worker, and sales worker - employers reported a scarcity of qualified workers.

Nursery and landscape worker positions would be found in cities, institutions, and nurseries.

Golf course worker positions were reported only by cities and country clubs (golf courses).

Sales worker positions were common to nurseries.

For the most part nursery and landscape workers, and golf course workers were males. Sales workers could be either males or females.

Experience, though desired, was not consistently expected.

The survey indicated that most employers prefer job applicants with training. The wages reported in this study suggested that length of training programs for workers or prospertive workers should be commensurate with expected wages.

If a training program were made available for students, there would be sufficient opportunity for them to have occupational experiences with cooperating employers and to find employment upon completion of training.

Based on replacement estimates there would be j[illegible]fication for planning and establishing training programs for full-time and part-time horticultural workers.

RECOMMENDATIONS

Since a need for training is evidenced from the study, it is recommended that vocational training programs in horticulture be initiated.

In planning the program, consideration should be given to the place and value of high school, post-high school, and continuation education in the training and retraining of workers.

Consideration should be given to an instructional and work program which would complement the low and peak employment periods of employers.

The program should be designed for maximum training reflected in employer demands, yet be flexible enough to permit students to complete training at any point in time which is consistent with their needs, interests, and abilities.

APPENDIX A

Kansas Vocational Education Research Coordinating Unit
Research Foundation of Kansas
Ramada Executive Building
Topeka, Kansas 66607

PRELIMINARY SURVEY

A Program of Training in Horticulture
for
High Schools and Area Vocational Technical Schools

1. What type of horticulture business do you operate? _____

2. List the job titles (positions) for persons whom you employ.

3. To what extent should a school provide training for horticulture students? (Check one).

   _____ 1. Experience program only.

   _____ 2. Classroom instruction only.

   _____ 3. Classroom instruction plus experience program.

4. What skills should be covered in a student training program for him to be of value to your business?

5. Would you consider assisting with a training program in horticulture by providing a work training station? Yes_____ No_____.

6. Would you consider employing a person who had been trained in this type of program? Yes_____; No_____.

7. Other comments:

APPENDIX B

Kansas Vocational Education Research Coordinating Unit
Ramada Executive Building, Room 22
Topeka, Kansas 66607

An Occupational Data Survey for a Program of Vocational Training in Horticulture

Name of Firm _____

Address _____

Telephone _____

Type of Business: (check one) nursery ____; Floral ____; recreational ____;
municipality ____; institution ____; other (specify) _____

Name of person completing questionnaire _____
title _____

Total number of persons employed by this firm:

Occupations	full-time	regular part-time	seasonal
Managerial	_____	_____	_____
Horticultural	_____	_____	_____
Mechanical	_____	_____	_____
Clerial	_____	_____	_____
Other (specify) _____	_____	_____	_____

Would you be interested in assisting in the occupational experience program by providing a work station for students in vocational horticulture?

yes _____ undecided _____ no _____

NURSERY AND LANDSCAPE WORKER. Attends to plants and maintains equipment and grounds. Performs those manual jobs requiring some judgment with regard to precision attained, e.g., plants, prunes, sprays, applies fertilizer, and operates machinery.

The above occupational title and definition were taken from the Dictionary of Occupational Titles (D.O.T.). If nursery and landscape workers in your firm have major duties in addition to those given, please list them below.

_____

_____

_____

1. Does this firm employ persons for this position? Yes____; No____.

A. If yes, list the number of persons employed in each category below and complete B and C; if no, go directly to item No. 2.

	(a) Full-time	(b) regular part-time	(c) seasonal
(1) 1966	_____	_____	_____
(2) 1967	_____	_____	_____
(3) 1968 est.	_____	_____	_____
(4) 1969 est.	_____	_____	_____
(5) 1970 est.	_____	_____	_____

B. From the number of employees listed, give the number by years who were, or will be, individuals new to your firm. (Do not list persons who were advanced within the firm.)

(1) 1966____ (2) 1967____ (3) 1968____ (4) 1969____ (5) 1970____

C. For each year below indicate by check mark (✓) the availability of qualified labor supply for this position.

1966 - (a) adequate____ (b) scarce____

1967 - (a) adequate____ (b) scarce____

2. If this position is not presently available, do you plan to add it to this firm by 1970? Yes____; No____.

A. If yes, enter the estimated number of employees under each employment classification by years and complete B.

	(a) full-time	(b) regular part-time	(c) seasonal
(1) 1968	_____	_____	_____
(2) 1969	_____	_____	_____
(3) 1970	_____	_____	_____

B. Of the employees listed, how many will be new employees in your firm? (Do not list persons who will be advanced within the firm.)

(1) 1968____ (2) 1969____ (3) 1970____

If either item 1 or 2 were answered yes, complete remaining items as they concern your firm.

3. This position requires: (check one)
A. male workers____ B. female workers____ C. either____

4. Experience is required for this position. yes____ no____

5. Would you place a graduate of a vocational horticulture training program in this position?
yes____ undecided____ no____

6. Average salary for this position in dollars: (Indicate salary by most common method for employment category.)

	(1) full-time	(2) regular part-time	(3) seasonal
A. hourly			
B. monthly			
C. annually			

7. Exceptions or clarifications: (use back of sheet, if necessary)

SALESWORKERS. Selling horticultural and nursery products with some knowledge relevant to items sold.

The above occupational title and definition were taken from the Dictionary of Occupational Titles (D.O.T.). If salesworkers in your firm have major duties in addition to those given, please list them below.

_____

_____

_____

1. Does this firm employ persons for this position? Yes____; No____.

A. If yes, list the number of persons employed in each category below and complete B and C; if no, go directly to item No. 2.

	(a) full-time	(b) regular part-time	(c) seasonal
(1) 1966			
(2) 1967			
(3) 1968 est.			
(4) 1969 est.			
(5) 1970 est.			

B. Of the employees listed, give the number by years who were, or will be, individuals new to your firm. (Do not list persons who were advanced within the firm.)

(1) 1966____ (2) 1967____ (3) 1968____ (4) 1969____ (5) 1970____

C. For each year below indicate by check mark (✓) the availability of qualified labor supply for this position.

(1) 1966 - (a) adequate____ (b) scarce____

(2) 1967 - (a) adequate____ (b) scarce____

2. If this position is not presently available, do you plan to add it to this firm by 1970? Yes_____; No_____.

A. If yes, enter the estimated number of employees under each employment classification by years and complete B.

	(a) full-time	(b) regular part-time	(c) seasonal
(1) 1968	_____	_____	_____
(2) 1969	_____	_____	_____
(3) 1970	_____	_____	_____

B. Of the employees listed, how many will be new employees in your firm? (Do not list persons who will be advanced within the firm.)

(1) 1968_____ (2) 1969_____ (3) 1970_____

If either item 1 or 2 were answered yes, complete remaining items as they concern your firm.

3. This position requires: (check one)

A. male workers	B. female workers	C. either
_____	_____	_____

4. Experience is required for this position. yes_____ no_____

5. Would you place a graduate of a vocational horticulture training program in this position?

yes_____ undecided_____ no_____

6. Average salary for this position in dollars: (Indicate salary by most common method for employment category.)

	(1) full-time	(2) regular part-time	(3) seasonal
A. hourly	_____	_____	_____
B. monthly	_____	_____	_____
C. annually	_____	_____	_____

7. Exceptions or clarifications: (use back of sheet, if necessary)

GOLF COURSE WORKER. Performs any combination of duties necessary to maintain grounds and turf of a golf course.

1. Does this firm employ persons for this position? Yes_____; No_____.

A. If yes, list the number of persons employed in each category below and complete B and C; if no, go directly to item No. 2.

	(a) full-time	(b) regular part-time	(c) seasonal
(1) 1966	_____	_____	_____
(2) 1967	_____	_____	_____
(3) 1968 est.	_____	_____	_____
(4) 1969 est.	_____	_____	_____
(5) 1970 est.	_____	_____	_____

B. Of the employees listed, give the number by years who were, or will be, individuals new to your firm. (Do not list persons who were advanced within the firm.)

(1) 1966____ (2) 1967____ (3) 1968____ (4) 1969____ (5) 1970____

C. For each year below indicate by check mark (✓) the availability of qualified labor supply for this position.

(1) 1966 - (a) adequate____ (b) scarce ____

(2) 1967 - (a) adequate____ (b) scarce ____

2. If this position is not presently available, do you plan to add it to this firm by 1970? Yes____; No____.

A. If yes, enter the estimated number of employees under each employment classification by years and complete B.

	(a) full-time	(b) regular part-time	(c) seasonal
(1) 1968	_____	_____	_____
(2) 1969	_____	_____	_____
(3) 1970	_____	_____	_____

B. Of the employees listed, how many will be new employees in your firm? (Do not list persons who will be advanced within the firm.)

(1) 1968____ (2) 1969____ (3) 1970____

<u>If either item 1 or 2 were answered yes, complete remaining items as they concern your firm.</u>

3. This position requires: (check one)
A. male workers____ B. female workers____ C. either ____

4. Experience is required for this position. yes____ no____

5. Would you place a graduate of a vocational horticulture training program in this position?
yes____ undecided____ no____

6. Average salary for this position in dollars: (Indicate salary by most common method for employment category.)

	(1) full-time	(2) regular part-time	(3) seasonal
A. hourly	_____	_____	_____
B. monthly	_____	_____	_____
C. annually	_____	_____	_____

7. Exceptions or clarifications: (use back of sheet, if necessary)